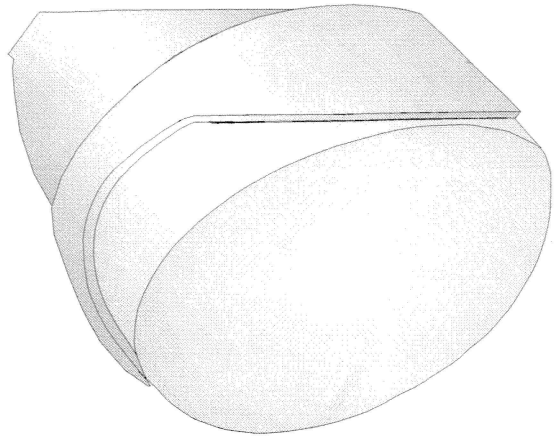
GJD OPAL XL 35 METRE EXTERNAL PIR



INSTALLATION MANUAL

PART NO: GJD020

An inconspicuous reliable 35 metre external passive infra red detector that works in conjunction with the GJD security lighting controllers.

The Opal XL is encased in a robust high impact ABS housing. The plug in electronics module is supported by an internal bracket which is fully adjustable horizontally and vertically. Further protection against harsh environments is offered by a separate polythene lens cover which conceals the angle of detection from any intruder and totally hides the wiring.

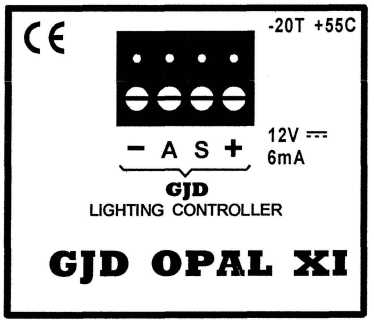
OPAL XL SPECIFICATIONS		
Area	10 to 35 metres (adjustable) up to 750 sq metres	
Coverage	90 degree 35 metres x 30 metres max	
Adjustment	180 degree pan + 90 degree tilt Area reduction mask (if required)	
Lens	Fresnel : 36 zone - White light filter	
No. 1 Output	'A'	Open collector -ve switching - 25mA max. Alarm period 400ms
No 2. Output	'S'	Open collector -ve switching - 25mA max. Alarm period: detection + 60 seconds Adjustable: Dusk (2 lux) to 24 hour
Power input	9 to 15VDC	
Current	6mA (12V nominal)	
Control	Digital ASIC/microprocesor	
Operating Temperature	-20 to + 55 centigrade. Conformally coated electronics for increased stability	
Protection	Rating: I P 55 - High Impact ABS Housing	
Dimension	104 x 104 x 94 mm Weight 136 grams	
Mounting	Height - Variable - optimum height 3 metres	
Cable	up to 200 metres : standard 4 core 7/0.2mm up to 500 metres : 8 core 16/0.2mm use double core	

INSTALLATION

Ensure the unit is mounted on a vertical surface. The multifunction lens shown on page 3 produces 9 long and 9 short range beam patterns. When positioning the unit remember that movement across the beams produces the best response whilst movement directly towards the detector will be less responsive.

During installation the electronics must be protected against water, as trapped moisture can effect or damage the unit.

1) First remove the front polythene cover by pulling forwards, then remove the lens module by pulling it out of the forked bracket.
2) Drill the wall to accept the top fixing and the lower cable entry. The holes should be on 16mm centres.
3) Feed standard 4 core alarm cable into lower cable entry; bare the wires and connect to the removable terminal block.



4) Always ensure when replacing the module that it is the correct way up for the correct alignment of the beam pattern. (page 3 multibeam lens data)
5) Replace the front cover with the ventilation hole at the bottom. Ensure the cover engages both sides of the outer casing before pressing firmly to locate it securely.
6) Apply the power - the red led flashes for 0.5 second.

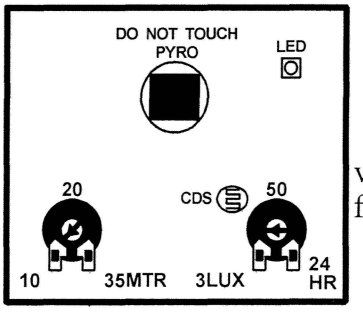
At this stage the unit can be walk tested with the front cover fitted. Adjust the range as necessary and pan and tilt the lens module over the field of view to obtain the correct beam coverage and ensuring that the detection beams do not exceed the area being covered.

TESTING THE OUTPUTS
(Alignment of the detection beams)
The range of the detector increases without the front cover. Therefore the cover must be fitted during 'walk test'.

Floodlights should be positioned at the side or above the detector 60cm (2 feet) is recommended, provided that the detector is not in direct radiated head from the floodlight.

The unit detects the changes in heat and movement in the beam pattern area, therefore trees, shrubs, ponds, boiler flues and animals should be considered when positioning the detector. In poor environment utilise the 'pulse count' option on the GJD lighting controllers.

LIGHT LEVEL:
The unit is set at '5' lux. This is the light level that the 'S' -ve output operates when detection takes place. This is generally considered the average light level at dusk. If the lux level dial is turned to 24 hour - this would activate the 'S' output for one minute after last detection irrespective of light level.



view behind the lens
factory settings shown

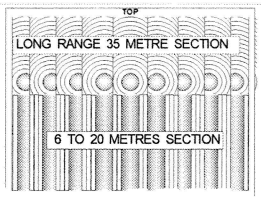
Increase the lux level if the ambient light levels at night are higher than 5 lux.

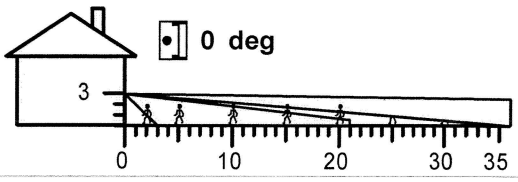
MULTIBEAM LENS DATA

The GJD multifunction lens fitted to the GJD Opal XL detector produces 9 long range beams and 9 medium to short range curtain beams. Movement across the beams produces the best response and range, whilst movement towards the detector will be less responsive.

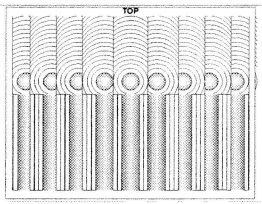
When mounting higher than boundary fences rotate the module and mask off any beams, either vertically or horizontally, that fall outside the area being covered. Use portions of the self-adhesive silver mask supplied to the rear, smooth side, of the lens and always replace the correct way up as shown to obtain the exact beam pattern coverage.

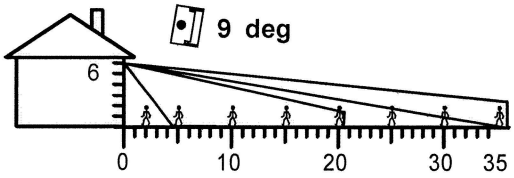
MULTIBEAM - OPTIMUM
HEIGHT: 3 METRES
RANGE: MAXIMUM
MODULE TILT: 0 DEGREE



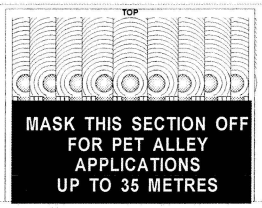


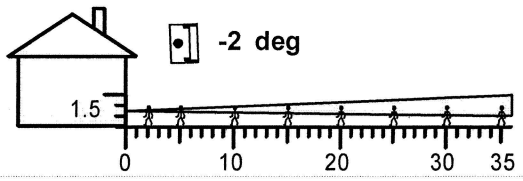
MULTIBEAM
HEIGHT: 6 METRES
RANGE: MAXIMUM
MODULE TILT: 9 DEGREE



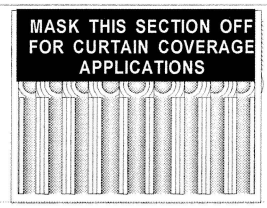


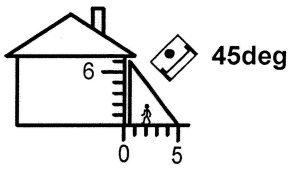
PET IMMUNITY
HEIGHT: 1.5 METRES
RANGE: MAXIMUM
MODULE TILT: -2 DEGREE

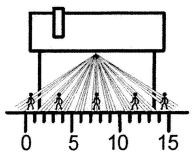


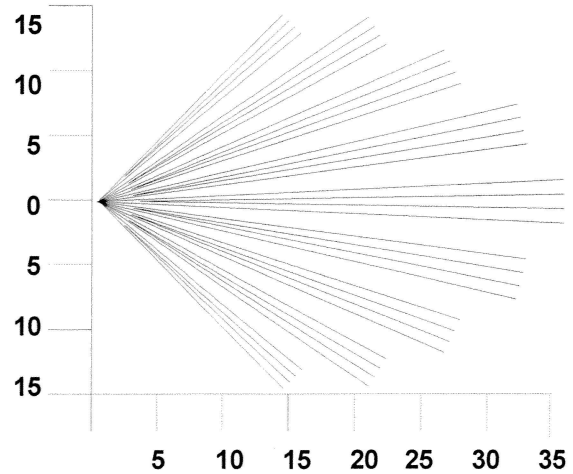


CURTAIN COVERAGE
HEIGHT: 6 METRES
RANGE: MAXIMUM
MODULE TILT: 45 DEGREE

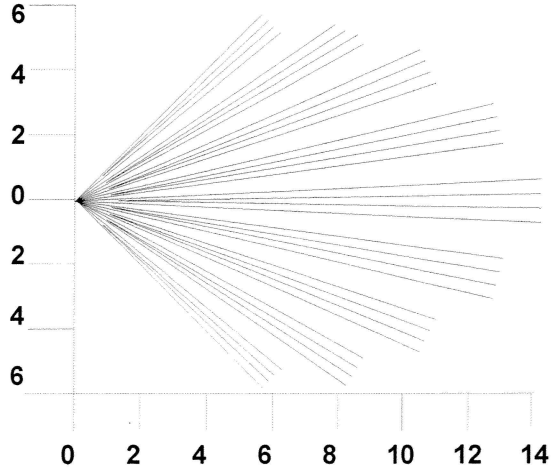








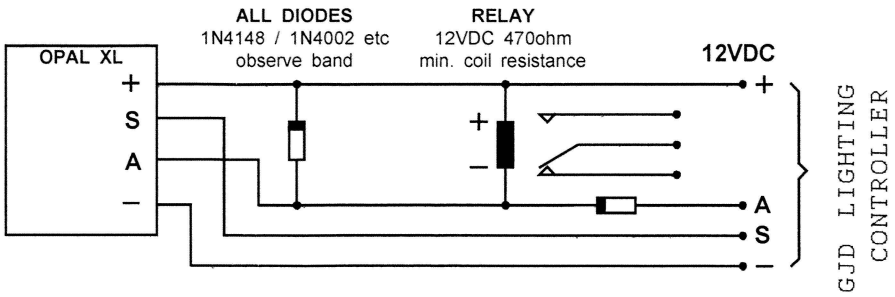
Beam Pattern set to maximum range. Masking top section of lens will reduce range to 20 metres



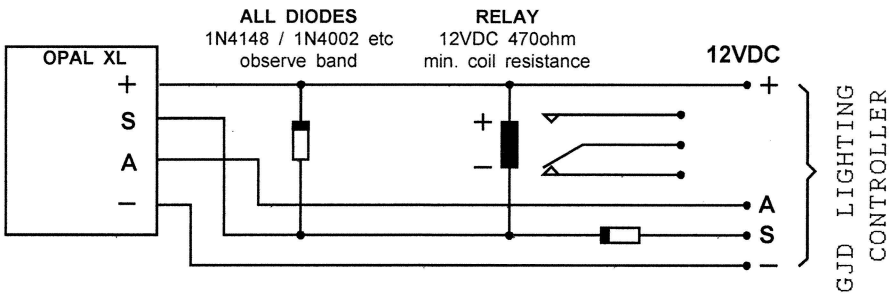
Beam Pattern set to minimum range. Masking top section of lens will reduce range to 6 metres

ADDITIONAL APPLICATIONS

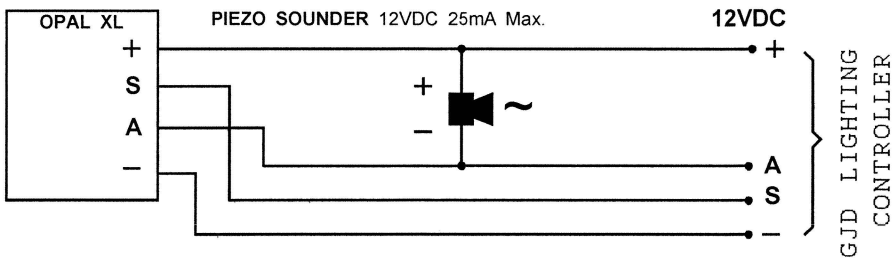
Energising a relay with detection day or night providing volt free contacts. Suggested relay 12VDC 470 ohms minimum coil resistance.



Energising a relay with detection at night for one minute longer than last detection.

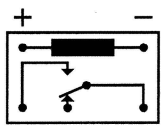


Driving a low power piezo sounder directly from the Opal XL.
The piezo will sound briefly every time a detection takes place day or night.



Example relays:
RS part number: 376-600
Farnell part no: 994-9178

Pin View
Coil Polarity



Example piezo:
RS part number: 617-3097

12 VDC @10mA 96db(A) at 30cm

Diode 1N4148:
RS part number: 652-7343

Diode 1N4002:
RS part number: 261-154A

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